

Backend Engineer Job Assignment

We are seeking for your talent, not your working-experience, so salary is no bar for us, we are looking for leaders not followers. So are you the leader of your own destiny, join our exciting team and build your future.

According to your talent we have 5 positions which are:

- | | |
|---------------------------------|----------|
| 1. Software Engineer | 3-5LPA |
| 2. Sr Software Engineer | 5-8LPA |
| 3. Lead Software Engineer | 8-15LPA |
| 4. Tech Lead | 15-25LPA |
| 5. Architects & System Designer | 25-50LPA |

We are looking for talent who is quick learner and grasp things quickly, well understand the requirement of feature/product, analysis the risk or edge cases, find the possible solutions and able to implement the one solutions out of proposed. Open for taking ownership of the feature and quality as leader. Able to design the user experience. You are responsible for the release quality feature on time. Your day to day job may involve system design, writing quality code, unit testing, team/co-worker handling, collaborative working and solution driven outcome execution.

For Software Engineer: 3-5LPA

1 Round 1(coding assignment-offline; Duration: 1 Week Time, max 9 days), you need to write your code and submit this code within 1 week when you receive this. Early submission will add you extra points.

Detail:

You need to write code at ``commands/ProcessFile.ts#processFile`` and your job is to process files the excel file as need to store those data into database. You have 4 tables,

1. Files path: Used for storing the excel file path.
2. Client: blank table for storing client information from excel file sheet 1
3. Client Bank Details: blank table for storing bank information of clients from excel file sheet 2
4. Client Address: blank table for storing addresses of clients from excel file sheet 3

When you are writing your code you will get loaded the all the files, and you just need to write your code at `` for processing and storing the data.

Setup Instruction: Read the repo README.md file for setup instruction

Submission Instruction: Remove the node_modules and zip your code and send it to us via email, where you receive this email for assignment.

2. Round 2 (Interview: Duration: 30-60Min)

-Technical Interview on online/offline office (on site: Surat; depends on your current location)

- Where you may have technical question and may give you few problems and need to give solutions or write code online. You can write your code into your favorite editor like VSCode, Sublime etc.

Finally, At the end of above rounds HR/Management will have final call with you for finishing the process. Where we will discuss the salary, our work culture, your job and responsibility and your career growth plan with organization. **(online/offline office (on site: Surat; depends on your current location; Duration: 30 Mins)**

For Sr Software Engineer 5-8LPA

1 Round 1(coding assignment-offline; Duration: 1 Week Time, max 9 days), you need to write your code and submit this code within 1 week when you receive this. Early submission will add you extra points.

Task for lower position **Software Engineer** + below are the details:

5. Write your code at `app/Controllers/Http/ExcelProcessesController.ts#process`
6. Validate and sanitize the data (like remove extra spaces, phone number, email validation etc.). before inserting into the database, also need to handle the file status that processed or not. Run you code through api like in browser or postman or cURL.
7. Find the error why few files are not processing and make the suitable code changes to handle the errors. Do not change anything on excel file.

Setup Instruction: **same as Software Engineer**

Submission Instruction: When you locally tested your code and you are confident about your code, you need to submit this solution to us via github. You need to create a private github.com repo, push your code to github.com and share access with the user <https://github.com/webledgerBot>. Also mention your github assignment URL reverting back email.

2. Round 2 (Interview: Duration: 30-60Min)

-Technical Interview on online/offline office (on site: Surat; depends on your current location)

- Where you may have technical question and may give you few problems and need to give solutions or write code online. You can write your code into your favorite editor like VSCode, Sublime etc.

Finally, At the end of above rounds HR/Management will have final call with you for finishing the process. Where we will discuss the salary, our work culture, your job and responsibility and your career growth plan with organization. **(online/offline office (on site: Surat; depends on your current location; Duration: 30 Mins)**

For Lead Software Engineer 8-15LPA

1 Round 1(coding assignment-offline; Duration: 1 Week Time, max 9 days), you need to write your code and submit this code within 1 week when you receive this. Early submission will add you extra points.

Task for lower position **Sr .Software Engineer** + below are the details:

8. Write your code at file ``app/Controllers/Http/ExcelProcessesController.ts``
9. Create RESTful API to handle excel file upload, without having the name conflict, as you can upload same file as many times and we will process and handle the results.
10. Maintain the process client count and file state as enum as: Uploaded, In Processing, Processed Fully, Processed Partial or Skipped (you need to change database design at migration_file:)
Enum and count maintain information:
 - a. If processed client count and file has client count is equal
 - i. Mark file status as 'Processed Fully' and take the clients count
 - b. Else if processed client count is greater than zero,
 - i. Mark file status as 'Processed Partial and take the clients count
 - c. Else
 - i. Mark file status as Skipped and take the count 0
11. Independent Seperate task: Write a Docker-compose file for running mysql:8 and redis:5, your all services must up by using ``docker-compose up -d`` or ``docker compose up -d`` and down by ``docker-compose down`` or ``docker compose down``

Setup Instruction: same as **Sr. Software Engineer**

Submission Instruction: same as **Sr. Software Engineer**

2. Round 2 (Interview; Duration: 30-60Min)

- Technical Interview on online/offline office (on site: Surat; depends on your current location)
- Where you may have technical question and may give you few problems and need to give solutions or write code online. You can write your code into your favorite editor like VSCode, Sublime etc.

3. Round 3 (Interview; Duration: 30-60Min)

-Technical Interview on online/offline office (on site: Surat; depends on your current location)

- Where you may have more complex technical question and problems to solve. Your solution may in form explain the solution and/or write code online. You can write your code into your favorite editor like VSCode, Sublime etc.

Finally, At the end of above rounds HR/Management will have final call with you for finishing the process. Where we will discuss the salary, our work culture, your job and responsibility and your career growth plan with organization. **(online/offline office (on site: Surat; depends on your current location); Duration: 30 Mins)**

For Tech Lead 15-25LPA

1 Round 1(coding assignment-offline; Duration: 2(1-1) Weeks Time), you need to write your code and submit this code within 1 week of Lead Software Engineer tasks and take second week for below tasks. Early submission will add you extra points.

Task for lower position **Lead Software Engineer** + below are the details:

12. Refactor the code and break into server-worker architecture. You can use <https://github.com/Rocketseat/adonis-bull> for this.
13. Create a server worker code architecture where file processed by worker. Once the file is uploaded to server, server insert the files table entry and mark status as Uploaded and push a job to worker. Then when worker receive the job, changed status to In Process and finally after processing the status may be (Processed fully, Partial or Skipped as mentioned on **Lead Software Engineer** task list)
14. Independent Seperate task: Write a Dockerfile to run the current server and worker. Also update the on Docker-compose for running server and worker as well. It means your whole solution must run and stop via docker-compose.yml. As your all services must up by using `docker-compose up -d` or `docker compose up -d` and down by `docker-compose down` or `docker compose down`
15. Independent Seperate task: write a RESTful API code dynamic adding the fields in the forms. As Frontend can have two inputs: 1. Name of form and 2. Dynamic fields details as array of field details. Below are the detail of possible field values.
 - a. TextField: string | string with name validation | string with phone validation | string with email validation
 - b. Text Area: string
 - c. Date: (string + frontend has optional input to pass the format like dd/mm/yyyy or MMM dd, YY)
 - d. Time: (string + frontend has optional input to pass the format like hh:mm or hh:mm:a or HH:mm)
 - e. Date and Time: (string + frontend has optional input to pass the format like dd/mm/yyyy hh:mm:a or MMM dd, YY HH:mm)

Your job to design the database table, write the migration for this table, create a controller to write CRUD operations as 5 rest end points:

1. GET Index (list of forms and it's fields, also pagination must apply to this, default page size is 20)
2. POST Create (to create one form and it's fields)
3. GET show (to get one form detail by `id` at params)
4. PUT update(to update one form and it's fields by `id` at params)
5. DELETE delete one form and it's fields

Setup Instruction: same as **Lead. Software Engineer**

Submission Instruction: same as **Lead. Software Engineer**

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3. Round 3 (Interview; Duration: 30-60Min)

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For Architects & System Designer 25-50LPA

Ask HR to send the hiring process and assignment for this position.